

BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of

Implementation Of the Local Competition
Provisions of the Telecommunications
Act of 1996

CC Docket No. 96-98

REPLY OF NETWORK ACCESS SOLUTIONS

Network Access Solutions ("NAS") files this Reply in order to respond to opening comments by other parties on the ILECs' petition.¹ In that petition, the ILECs ask the Commission to repeal rules requiring that they provide CLECs with high-capacity loop and local transport UNEs. Their request to repeal these rules is based on their claim that repeal would not "impair" the ability of a CLEC to provide the "services it seeks to offer."² Petitioners define a high-capacity loop and high capacity local transport as any loop or local transport facility used to transmit data at T1 speed or faster.³

BACKGROUND

NAS is a CLEC using DSL technology (and occasionally special access service) to provide high speed data transmission service to small and mid-sized businesses in nine MSAs

1. Joint Pet. of BellSouth, SBC and Verizon, filed April 5, 2001.
2. See 47 C.F.R. § 51.319(a) (requiring ILECs to provide loops, including high-capacity loops); 47 C.F.R. § 51.319(d) (requiring ILECs to provide transport, including high-capacity transport). Section 251(d)(2) of the Communications Act requires ILECs to provide a given network element to a CLEC as a UNE only if failure to do so would "impair the ability of the ... [CLEC] to provide the services that it seeks to offer."
3. Joint Pet. at 1 n.1.

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within Verizon's exchange territory. The NAS service, launched in early 1999 under the CopperNet™ brand, permits NAS customers to transmit and receive data to and from another location on the NAS network at speeds up to 2.3 megabits per second. An NAS customer can access the NAS network using a variety of formats, including IP, frame relay, and ATM.

NAS provides service in a given MSA over a metropolitan area network ("MAN") that it operates in that MSA. An NAS MAN consists of three elements relevant to the petition: (i) a large number of collocation arrangements in Verizon central offices which NAS places DSLAMs and other electronic equipment needed to provide service; (ii) local transport connecting each collocation arrangement to another NAS collocation arrangement in a Verizon central office in the same MSA that serves as an NAS hub; and (iii) loops connecting each NAS customer location in the MSA to the NAS collocation arrangement serving that customer location. All local transport that NAS uses is "high-capacity" transport (i.e., transport used to transmit at T1 speed or higher) since almost all NAS local transport links transmit at T3 speed. About 25 percent of the loops that NAS orders are "high-capacity" loops (i.e., loops used by the NAS customer to transmit at T1 speed or higher). When NAS requires a high-capacity loop, it orders a DSL-compatible loop if Verizon can provide a DSL-compatible loop capable of transmitting data at the speed desired by the NAS customer. Otherwise, NAS either does not provide the requested service or, in situations where it is economic to do so, orders a substantially more expensive T1 loop.

DISCUSSION

In opening comments, numerous parties urged the FCC to reject the petitioning ILECs' request to repeal rules requiring provision of high-capacity loops and local transport since the ILECs failed to offer a shred of evidence to support the assumption underlying that request. The

petitioners' unproven assumption is that CLECs use high-capacity loop and local transport UNEs almost exclusively to provide service to large businesses, a customer group that is concentrated in a few small geographic areas within a given MSA where transmission facilities allowing high capacity transmissions between two given points within the MSA are sometimes available from sources other than the ILEC.⁴ Without proof that substantially all demand for local high-capacity transport and loop UNEs is for links that connect locations within a given MSA where large businesses are concentrated, the petition must be denied since repealing the rules then plainly would impair CLEC competition since even petitioners recognize that the ILEC serving a given MSA is the only supplier of high-capacity transmission facilities between two given points in the MSA when one or both of those points is outside of the small pockets where large businesses are concentrated.

Not only did petitioners fail to support their assumption that high-capacity loops and local transport are used almost entirely to serve large business customers as the opening comments noted, NAS's operations throughout the Verizon region confirm that the ILECs' assumption is false. Rather than using high-capacity loop and local transport UNEs to provide service to large businesses, NAS, like all other CLECs that provide DSL service, uses high-capacity loop and local transport primarily to serve small and mid-sized businesses. Small and mid-sized businesses are far more widely dispersed than large businesses.

The fact that DSL service is targeted to a far wider geographic area within a given MSA than the few compact regions in the MSA where large businesses are concentrated means that Verizon is the only carrier that can fill a large percentage of NAS's high-capacity loop and local

4. See, e.g., Sprint Comments at 6-14; WorldCom Comments at 7-8; XO Comments at 12-24; Copper Mountain Comments at 11-12; Yipes Comments at 15-18; AES Comments at 8-10.

transport orders. As a result, NAS obtains more than 96 percent of its high-capacity transport circuits and over 92 percent of its high-capacity loops from Verizon.

For example, NAS requires high-capacity local transport to connect each NAS collocation arrangement within a given MSA to another NAS collocation arrangement in the same MSA that serves as a local NAS hub. Verizon is the only source of high-capacity transport at most of NAS's 500+ collocation arrangements in Verizon territory since a large percentage of them are in residential or mixed commercial/residential areas rather than in the few small areas where large businesses are concentrated.⁵ Verizon also is indisputably the sole source of supply for high-capacity DSL-compatible loops everywhere within its service area, including areas where large businesses are clustered, since DSL-compatible loops are available from no other source in any area as even the petitioners recognize. Verizon likewise is almost always NAS's only source of supply for T1 loops since many small and mid-sized businesses are located in predominantly residential or mixed residential/commercial areas rather than in areas where large businesses are concentrated and since networks operated by alternative transmission suppliers in areas where large businesses are clustered typically pass only the buildings where those large businesses are located. Small and mid-size businesses often are not located in those buildings.

As a practical matter, Verizon also has substantial market power even in the relatively few situations where NAS needs high capacity transmission to connect two locations within a given MSA that are within the small geographic areas where large businesses are concentrated. First, even

5. NAS has collocation arrangements, in the nine MSAs where it provides service, in more than 75 percent of the Verizon central offices where collocation space is available. By contrast, petitioners suggest that about 80 percent of large businesses are served from just 20 percent of Verizon's central offices. Joint Pet. at 11.

the petitioners admit that ILECs remain the sole source of high capacity transmission to connect many of these points. In addition, however, Verizon has market power even in many situations where one or both points are served by an alternative supplier of high-capacity transmission facilities. With regard to local transport, for example, it often would cost more to obtain the local transmission link connecting two NAS collocation arrangements from the alternative supplier than from Verizon for several reasons. First, the much smaller size of the competitor's network frequently means its transport link between the two points takes a more circuitous route and thus is more expensive than the link available from Verizon. Second, it costs more to obtain separate cross-connects from a given collocation arrangement to both the Verizon loop network and the alternative transport supplier's collocated local transport network than to Verizon's integrated loop and transport network alone. Third, the "0 mileage connection charge" that an alternative transport supplier assesses once a cross connection has been made can be an economic barrier since NAS would be required to spread that cost over a small number of NAS collocation arrangements given that the small size of alternative supplier networks means that only a few NAS collocation arrangements could take advantage of the supplier's network. Finally, the administrative costs of coordinating the provisioning of local transport are higher when transport is provisioned by several different suppliers.

Alternative high capacity transmission suppliers who are collocated in the relatively small percentage of the 500+ central offices where NAS is collocated likewise are usually unable to provide NAS with loops from these central offices at an economic price for use in transmitting at T1 speed for several reasons. First, many alternative suppliers require a CLEC customer to pay for more than T1 bandwidth given that most of them provide service using fiber, and a single fiber

strand is capable of transmitting at far greater than T1 speed.⁶ Moreover, an alternative supplier usually is unable to provide the loop that NAS needs even if it is collocated in the central office where that loop must terminate since alternative supplier networks usually do not pass the small and mid-size businesses that NAS serves. Finally, some carriers that would be able technically to supply high capacity loops from a given central office refuse as a matter of corporate policy to sell loops to CLECs with whom they compete.

There also is brand new independent evidence that ILECs continue to have monopoly power in the supply of transmission facilities in the vast majority of situations where high capacity transmission is needed between two or more points located in the small geographic areas where large businesses are concentrated. For example, the New York Public Service Commission (“NYPSC”) held on June 15, 2001 after a lengthy investigation that “Verizon remains the dominant provider of [high capacity transmission] facilities” throughout New York, including the areas where large businesses are clustered.⁷ The NYPSC’s finding is particularly important given that alternative suppliers of high capacity local transmission facilities began operating in New York before any other state. New Paradigm Resources Group likewise reported last week that while there is competition in the provision of high capacity transmission facilities along certain intercity point-to-point routes, there is no competition in the provision of high capacity transmission between the overwhelming majority of points in local areas, including many situations where both points are in

6. See Copper Mountain Comments at 8 (“to use fiber for a last mile [T1] loop would result in excess capacity and investment”).

7. See Order in Case Nos. 00-C-2051 and 92-C-0665 at 10 (rel. June 15, 2001).

areas where large businesses are concentrated. A copy of New Paradigm article dated June 20, 2001 on this subject is attached as Att. 1.

The petitioners' erroneous listing of numerous CLECs, including NAS, as providers of high capacity local transport and loops to other CLECs also helps show that the petitioners have no competition in the local high-capacity transmission market even in situations where both points are in the small geographic areas where large businesses are concentrated. Other parties already have named many CLECs that petitioners falsely list as suppliers of high-capacity local transport and loops.⁸ NAS notes in addition that petitioners also falsely claim that NAS is an alternative supplier of high-capacity transmission in the parts of six MSAs (New York; Philadelphia; Boston; Washington, D.C.; Baltimore; and Richmond) where large businesses are located.⁹ In fact, while NAS provides DSL service in each of those MSAs and thus operates MANs in these areas, it has obtained substantially more than 90 percent of its high-capacity loops and local transport in these

8. *See, e.g.*, CLEC Council Comments at 9 (noting that neither CLEC listed in the petition as providing high-capacity transmission in Pittsburgh even operates a network there); WorldCom Comments, Att.A at 3 (noting that petitioners falsely list RCN and US Online as providing high-capacity transport and loops to CLECs); TDS MetroCom Comments (noting that petitioners' claim that it provides high-capacity transport in two Wisconsin MSAs is an overstatement since MetroCom has deployed high-capacity transmission facilities in only limited parts of those markets); XO Comments at 13 (noting that while NEON has deployed a fiber network in the Washington, DC market as the petitioners point out, CLECs cannot obtain high-capacity transmission from NEON in most parts of the Washington, DC MSA since the NEON network is only about 22 blocks long); *Id.* at 16 (explaining that American Fiber Systems has displayed a fiber network in just one of the 56 cities where the petitioners claim American is a source of high-capacity transport and loops); Yipes Comments at 14 (noting that petitioners are wrong in listing Yipes as a supplier of high-capacity loops and transport).

9. *See Pet.*, Fact Report at App. B.

networks from Verizon as indicated above. Moreover, NAS uses its MANs solely to provide its own retail service rather than to provide high- capacity loops and local transport to other carriers.

CONCLUSION

The Commission should deny the ILECs' petition.

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—Original Message—

From: newsletter [mailto:newsletter@nprg.com]

Sent: Wednesday, June 20, 2001 5:47 PM

Subject: Competitive Telecom Advisor

Competitive Telecom Advisor

A weekly look at the competitive telecom industry...

Presented by:

New Paradigm Resources Group, Inc....the company that brought you the CLEC Report*

Killing the "Killer Apps?"

What gives? Earlier this week, the New York Times and the Wall Street Journal each ran front-page features describing a huge glut of fiber. Yet, many telecom observers are stating that a lack of fiber is curtailing the development of "killer applications" necessary to absorb the fiber glut. How now this paradox?

It's quite simple. The glut is in the long-haul part of the network, while the shortage is at the local level. Streams of data packets whirl around under-utilized inter-city links. As they converge on the over-subscribed Metropolitan Area Network (MAN), however, they turn into a massive clog of ever-greater proportions.

So it is that many developers of killer apps – or more likely the throngs of developers considering the more-important smallish apps – could all along have been dissuaded from rushing out their products: some lamenting too little bandwidth at the local level, others concerned about too few high-bandwidth connections to customers. The bottom line is that at the margin, decisions to invest in Research and Development could very possibly have been affected by the portents of doom surrounding fiber, DSL, and fixed wireless roll outs to the customer.

The future suggests more blockages at the local level. NPRG estimates that CLEC data revenue will grow from \$10.2 billion in 1999 to approximately \$30 billion in 2001. In the same period, ISP revenues will jump from \$7.6 billion to almost \$17 billion. Even discounting some analysts' prognostications of trillions of dollars in e-commerce by 2005, it is apparent that data is still growing at a rapid pace.

It is key to conceptually split the last-mile network in two to analyze the present and expected bottleneck in the MAN. The core portion of the MAN winds its way around the metro area, connecting central offices, carrier hotels, and other POPs. The access portion, in contrast, connects the core to the customer premises.

Fiber-laying companies such as Metromedia Fiber Network in the largest markets and American Fiber Systems in Tier Two and Three markets, are deploying MAN fiber, first, in the most heavily concentrated districts of downtown areas, and then along routes passing clusters of potential corporate customers and multi-tenant buildings outside the initial center. To this point, relatively few buildings along the routes have been connected through last-foot links.

The economics of fiber deployment dictates what areas will be dug up and what areas cannot be addressed any time soon. Connecting buildings on spec is an expensive proposition. Thus, it will be some time before all potential users along given routes are connected. It will likely be a couple of years before suburban areas see any substantial fiber deployments at the core or access levels, six or more years before more remote areas see even the start of fiber roll outs. Many areas will never see fiber.

Some companies of late are helping out the MAN in unique ways. Sphera Optical Networks is applying Dense Wavelength Division Multiplexing (DWDM) to intra-city fiber, providing more channels per fiber strand, hence, greater bandwidth. The high cost of metro DWDM, however, suggests only the largest urban centers will see such deployments. Moreover, the number of last-foot links to the customer will not be affected by metro DWDM. So-called "Sewer-LCC" CityNet Communications' ability to blow fiber through the sewers, on the other hand, should make it easier and less expensive to connect buildings to the network.

The bottom line is that even as the metro core is built out with fiber, the paucity of last-foot connections will continue to thwart those applications that rely on ultra-high-bandwidth connections. DSL and new forms of compression-based copper bandwidth expansion will add to the base of high-bandwidth connections. Broadband cable, fixed wireless, and satellite will also play their parts.

Slowly, inexorably, fiber will be deployed across an increasingly wide part of a growing number of metropolitan areas. Collectively, all of these forms of last-foot connection will complement core fiber deployment, setting the stage for more aggressive development and deployment of telecom and IT applications, killer or otherwise.

New Paradigm Resources Group, based in Chicago, is a research and consulting firm serving the investment community, equipment vendors, and competitive carriers in the telecommunications industry. The firm consults companies on issues ranging from due diligence review to business planning and market assessment, as well as project development. NPRG publishes the CLCC Report*, a biannual multi-volume review of the state, trends, and future of the competitive local telecom industry, as well as the ISP Report*, ASP Report*, and BLEC Report*. For more information, call 312-980-4796 or visit NPRG on the Web at <http://www.nprg.com> or visit our new e-commerce site at <http://ecom.nprg.com>.

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